
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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COBALT IN JUNE 1997

U.S. consumption of cobalt during the first half of 1997 was 11% higher than consumption during the first 6 months of 1996. U.S. imports of cobalt metal and cobalt contained in chemicals during January through May 1997 were 28% higher than imports during the first 5 months of 1996. Exports of unwrought cobalt and cobalt contained in chemicals were 15% lower during January through May 1997 than exports during the same period in 1996. Trade data for June 1997 will be available in a subsequent issue.

Week ending

August 29

September 5

September 12

Price range

24.00-24.75

24.25-25.00

24.35-25.10

Monthly averages

July

22.63

August

23.59

Note

With the exception of prices and data from the Cobalt Development Institute (CDI), all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

Price update, in dollars per pound of electrolytic cobalt (Source—Platt's Metals Week):

Update

The Cobalt Development Institute (CDI) released 6-month production figures for its seven member-producers. Production during January through June 1997 was 15% lower than production during the first half of 1996. The decrease was primarily from lower production by African producers La Générale des Carrières et des Mines and Zambia Consolidated Copper Mines Ltd.

Refinery Production, metric tons cobalt content

Country	Producer	Jan.-June 1996	Jan.-June 1997
Canada	Inco Ltd.	860	820
	The Cobalt Refinery Co. Inc.	945	1,108
Democratic Republic of Congo	La Générale des Carrières et des Mines	2,992	1,032
Finland	OM Group Inc.	1,900	2,390
Japan	Sumitomo Metal Mining Co. Ltd.	112	117
Norway	Falconbridge Ltd.	1,459	1,880
Zambia	Zambia Consolidated Copper Mines Ltd.	2,527	1,880
Total		10,795	9,227

Source: Cobalt Development Institute.

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
1996:				
January-June r/	1,630	797	778	3,210
January-December r/ 4/	3,240	1,610	1,660	6,500
Year 5/	3,640	1,710	1,670	7,010
1997:				
January	303	140	163	606
February	287 r/	134	165	587 r/
March	275	133	171	579
April	303	132	173	608
May	296 r/	128 r/	174	598 r/
June	266	126	174	566
January-June	1,730	793	1,020	3,540

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

5/ Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	1996			1997	
	January- June	January- December 2/	Year 3/	June	January- June
Steel:					
Stainless and heat resisting	19	38	38	3	19
Tool	51	95	95	7	59
Superalloys	1,390 r/	2,910	3,220	278	1,720
Alloys (excludes steels and superalloys):					
Magnetic alloys	356 r/	682	728	58	346
Welding materials (structural and hard-facing) 4/	134 r/	268	284 r/	27	160
Other alloys 5/	22 r/	45	65	W	W
Cemented carbides 6/	369 r/	721	722 r/	52	362
Chemical and ceramic uses:					
Catalysts	324 r/	638	652	49	305
Driers in paints or related usage	358 r/	733	733	57	351
Ground coat frit	85 r/	159	159	13	83
Pigments	W	W	191	W	W
Miscellaneous and unspecified 7/	97 r/	211	119	22	140
Total	3,210 r/	6,500	7,010	566	3,540

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes annual reports.

4/ Includes wear-resistant alloys.

5/ Includes nonferrous alloys.

6/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

7/ Includes feed or nutritive additive, full-alloy steel, glass decolorizer, mill products made from metal powder, and data indicated by the symbol "W."

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

	Industry 2/				U. S. Government 3/
	Metal 4/	Oxide and other chemical compounds 5/	Scrap	Total	Metal
1996:					
June	213 r/	714	112 r/	1,040 r/	19,600
July	237 r/	717 r/	104 r/	1,060 r/	19,500
August	354 r/	443 r/	102 r/	899 r/	19,300
September	324 r/	326	82 r/	732 r/	19,000
October	279 r/	275	106 r/	661 r/	18,900
November	283 r/	280	107 r/	669 r/	18,800
December	273 r/	273 r/	182 r/	728 r/	18,700
Yearend 7/	305	275	182	762	18,700
1997:					
January	337 r/	281 r/	101 r/	719 r/	18,500
February	303 r/	270 r/	92 r/	665 r/	18,400
March	328 r/	252 r/	118 r/	698 r/	18,300
April	367 r/	252	88	707 r/	17,900
May	384 r/	239	83	706 r/	17,800
June	368	241	85	694	17,800

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Data from Defense Logistics Agency. Includes material committed for sale pending shipment.

4/ Includes metal powder.

5/ Data may include other cobalt materials.

6/ Data based on monthly reports.

7/ Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1996:								
May	475,000	\$28,700,000	62,100	\$2,730,000	55,200	\$786,000	533,000	2,850,000
June	600,000	36,100,000	82,200	3,710,000	88,800	1,170,000	682,000	3,530,000
July	590,000	34,800,000	93,900	4,440,000	60,200	778,000	674,000	4,200,000
August	480,000	24,800,000	51,900	2,010,000	38,600	405,000	528,000	4,730,000
September	434,000	20,600,000	58,600	2,440,000	101,000	954,000	503,000	5,240,000
October	347,000	17,100,000	71,000	3,030,000	101,000	1,010,000	425,000	5,660,000
November	481,000	22,300,000	61,100	2,640,000	90,700	911,000	550,000	6,210,000
December	400,000	19,400,000	64,100	2,400,000	155,000	1,340,000	494,000	6,710,000
January-December	5,760,000	327,000,000	824,000	36,200,000	1,260,000	14,800,000	6,710,000	XX
1997:								
January	629,000 7/	28,400,000 7/	85,900	3,080,000	182,000 7/	1,470,000 7/	746,000	746,000
February	567,000	24,300,000	56,900 7/	1,690,000 7/	157,000	1,540,000	649,000	1,400,000
March	524,000 7/	22,800,000 7/	72,200	3,250,000	65,000 7/	519,000 7/	594,000	1,990,000
April	770,000	32,900,000	104,000	4,190,000	203,000	1,910,000	899,000	2,890,000
May:								
Belgium	8,250	607,000	6,000	246,000	2,000	20,200	13,100	143,000
Brazil	10,000	452,000	--	--	--	--	10,000	89,100
Canada	87,400	3,960,000	--	--	1,460	36,000	88,000	453,000
Finland	74,700	3,080,000	25,400	759,000	226,000	1,950,000	154,000	657,000
France	3,820	353,000	1,820	145,000	--	--	5,130	30,800
Germany	2,300	132,000	300	26,400	--	--	2,520	27,100
Japan	--	--	499	48,300	60	1,470	374	5,200
Mexico	--	--	--	--	--	--	--	1,680
Netherlands	--	--	--	--	--	--	--	8,640
Norway	175,000	8,520,000	--	--	--	--	175,000	908,000
Russia	87,900	4,170,000	--	--	--	--	87,900	363,000
South Africa	21,400	1,890,000	--	--	--	--	21,400	23,700
Spain	--	--	4,490	135,000	--	--	3,230	15,700
United Kingdom	27,900	1,330,000	24,700 7/	736,000 7/	20,000	270,000	50,500	95,300
Zaire	36,300	1,620,000	--	--	--	--	36,300	318,000
Zambia	98,800	4,950,000	--	--	--	--	98,800	496,000
Total	634,000	31,100,000	63,200	2,100,000	250,000	2,270,000	746,000	3,640,000

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt sulfates, cobalt chlorides, cobalt carbonates, and cobalt acetates.

4/ Customs value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
1996:						
May	3,970	\$339,000	34,500	\$694,000	19,800	\$1,270,000
June	2,630	108,000	17,400	292,000	13,800	1,070,000
July	4,540	345,000	51,000	943,000	12,300	868,000
August	8,080	313,000	84,600	2,020,000	10,500	676,000
September	2,500	237,000	14,900	765,000	12,500	878,000
October	483	34,100	47,900	644,000	17,500	1,020,000
November	17,500	946,000	20,400	552,000	9,680	714,000
December	3,560	207,000	55,300	2,270,000	15,300	1,100,000
January-December	60,500	3,790,000	566,000	11,700,000	178,000	11,500,000
1997:						
January	5,920	443,000	32,800 4/	1,070,000 4/	14,500	876,000
February	12,400	497,000	38,100 4/	1,280,000 4/	14,100	958,000
March	2,350	181,000	29,500 4/	1,170,000 4/	39,100	1,380,000
April	8,450	418,000	73,400	1,950,000	24,800	1,530,000
May:						
Belgium	500	17,300	--	--	138	6,250
Brazil	1,000	33,200	--	--	--	--
Canada	58	12,400	3,750 4/	183,000 4/	873	121,000
Denmark	30	3,390	--	--	--	--
Finland	--	--	13,200 4/	635,000 4/	--	--
France	4,350	281,000	158	2,050	2,940	103,000
Germany	--	--	10,700	77,800	106	28,100
Israel	--	--	150	2,250	--	--
Italy	50	1,880	--	--	--	--
Japan	163	13,800	--	--	6,110	371,000
Netherlands	--	--	20,400	376,000	--	--
Russia	--	--	--	--	2,200	26,800
Sweden	15,900	556,000	--	--	--	--
Switzerland	2,350	36,000	--	--	--	--
United Kingdom	--	--	2,470	42,400	17,000	809,000
Total	24,400	955,000	50,700	1,320,000	29,300	1,470,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ All or part of these data have been referred to the Bureau of Census for verification.

Source: Bureau of the Census.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1996:								
May	145,000	\$6,930,000	22,700	\$689,000	20,500	\$346,000	166,000	812,000
June	159,000	7,500,000	13,300	514,000	20,600	310,000	173,000	986,000
July	64,300	2,870,000	24,100	575,000	27,200	271,000	88,200	1,070,000
August	88,700	3,160,000	7,970	277,000	26,600	292,000	101,000	1,170,000
September	58,200	2,370,000	35,600	1,060,000	42,800	224,000	94,200	1,270,000
October	73,100	3,390,000	25,700	790,000	31,900	104,000	99,300	1,370,000
November	84,000	3,510,000	27,400	777,000	78,100	316,000	122,000	1,490,000
December	118,000 7/	3,930,000 7/	54,400	1,440,000	112,000	678,000	184,000 r/	1,670,000 r/
January-December	1,320,000 r/	66,100,000 r/	346,000	10,200,000	446,000	4,050,000	1,670,000 r/	XX
1997:								
January	60,800	2,350,000	30,300	979,000	34,100 8/	149,000 8/	90,700	90,700
February	101,000	2,480,000	48,100 8/	1,160,000 8/	65,500 8/	234,000 8/	152,000	242,000
March	82,000	3,990,000	50,100	1,530,000	18,500	253,000	123,000	365,000
April	143,000	5,760,000	93,100 8/	2,140,000 8/	5,430	74,100	211,000	576,000
May	77,100	3,990,000	35,600 8/	802,000 8/	65,800	428,000	118,000	695,000

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ Data revised by the Bureau of Census.

8/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
1996:				
May	18,800	\$1,460,000	19,300	\$174,000
June	62,000	2,150,000	--	--
July	28,500	1,170,000	3,500	162,000
August	67,100	1,660,000	43,500	1,050,000
September	31,000	1,780,000	56,200	2,250,000
October	20,600	1,420,000	--	--
November	108,000	2,610,000	8,790	370,000
December	88,900 3/	4,080,000 3/	(4/)	(4/)
January-December	532,000 r/	23,600,000 r/	154,000 r/	4,560,000 r/
1997:				
January	44,300	3,020,000	24,600 5/	1,000,000 5/
February	20,900	1,420,000	80,500 5/	750,000 5/
March	68,200	3,720,000	12,200 5/	145,000 5/
April	66,100	2,590,000	300 5/	7,390 5/
May	187,000	8,410,000	2,510 5/	56,500 5/

1/ Data are rounded to three significant digits.

2/ Free alongside ship (f.a.s.) value.

3/ Data revised by the Bureau of the Census.

4/ Data revised to zero by the Bureau of the Census.

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.